Marco BAGNARDI

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Professional Experience

2018 - *present*	**NASA Postdoctoral Fellow (NPP)**, Jet Propulsion Laboratory, California Institute of Technology, USA
2014 - 2018	**Research Fellow**, Institute of Geophysics and Tectonics, University of Leeds, UK
2014 - 2018	**Research Staff**, NERC Centre for the Observation and Modelling of Earthquakes, Volcanoes and Tectonics (COMET), UK
2009 - 2014	**Graduate Research Assistant**, Rosenstiel School of Marine and Atmospheric Science, University of Miami, USA
2012 - 2013	**Visiting Scientist**, Hawaiian Volcano Observatory, U.S. Geological Survey, USA
2010	**Graduate Teaching Assistant**, Marine Science Program, University of Miami, USA
2008	**Exchange Visitor**, Hawaiian Volcano Observatory, U.S. Geological Survey, USA

Education

2009 - 2014	**Ph.D in Marine Geology and Geophysics**, Rosenstiel School of Marine and Atmospheric Science, University of Miami, USA
2006 - 2008	**M.S. in Geodynamics, Geophysics and Volcanology**, Sapienza University of Rome, Italy
2002 - 2006	**B.S. in Geological Sciences and Geotechnologies**, University of Milano-Bicocca, Italy

Research Grants/Fellowships

2017	NASA Postdoctoral Program Fellowship, "MaSTER – Magma Storage and Transport in Extensional Regimes: integrated studies of Hawaiian and Icelandic volcanoes"
2015	COMET Small Grants – "Is magma stored beneath rift zones?", PI, £5,000
2015	Climate and Geohazard Services – University of Leeds, "Very-High-Resolution (VHR) topography to assist post-eruption reconstruction planning at Fogo, Cape Verde", PI, £6,500
2015	Climate and Geohazard Services – University of Leeds, participation to "VUELCO Short Course and Volcanic Unrest Exercise, Dominica", PI, £3,500
2011 - 2014	NASA Earth and Space Science Fellowship, "Dynamics of Magma Storage at Basaltic Volcanoes: Multi-parameter Geophysical Studies of the Hawaiian and Galápagos Volcanoes", $90,000
2008	Jack Kleinman Grant for Volcano Research - Cascades Volcano Observatory, U.S. Geological Survey, and Community Foundation for Southwest Washington, PI, $500

Involvement in International Research Projects

2014 - 2016	Research Fellow, FUTUREVOLC, Environment programme of the FP7 programme of the European Commission, "Long-term monitoring experiment in geologically active regions of Europe prone to natural hazards: the Supersite concept"
2009 - 2012	Graduate Research Fellow, NSF Earth Sciences, collaborative research: "An integrated seismic-geodetic study of active magmatic processes at Sierra Negra volcano, Galapagos Islands"

Professional Engagement

2015	Organizer, COMET Workshop on modeling of magmatic processes, Leeds, UK
2014 - 2016	Coordinator, Volcanic Studies research group, Institute of Geophysics and Tectonics, University of Leeds, UK
2012 - *present*	Reviewer, Earth and Planetary Science Letters, Journal of Geophysical Research, Geophysical Research Letters, Journal of Volcanology and Geothermal Research, Remote Sensing, Elements, AGU Geophysical Monographs, Remote Sensing of the Environment, research funding agencies.
2012–*present*	Member, IAVCEI
2012–*present*	Member, European Geosciences Union (EGU)
2009–2010	Coordinator, "Geotopics" seminar series, Rosenstiel School of Marine and Atmospheric Science, University of Miami, USA
2008–*present*	Member, American Geophysical Union (AGU)

Departmental Seminars

2018	University of Cambridge, Department of Earth Sciences, Cambridge, UK
2017	University of Liverpool, School of Environmental Sciences, Liverpool, UK
2017	USGS Volcano Science Center, Menlo Park, CA, USA
2017	USGS Hawaiian Volcano Observatory, Hawaii, USA
2016	GFZ, Helmholtz-Zentrum, Potsdam, Germany
2014	University of Bristol, Department of Earth Sciences, Bristol, UK
2014	British Geological Survey, Edinburgh, UK
2014	GFZ, Helmholtz-Zentrum, Potsdam, Germany
2013	DTM, Carnegie Institution for Science, Washington, DC, USA
2013	USGS Hawaiian Volcano Observatory, HI, USA
2009	Rosenstiel School of Marine and Atmospheric Science, University of Miami, Miami, FL, USA

Peer-reviewed Scientific Articles

Google Scholar page: https://scholar.google.co.uk/citations?user=M74Y0mQAAAAJ
ResearchGate page: https://www.researchgate.net/profile/Marco_Bagnardi

9. Parks MM., Heimisson ER, Sigmundsson F, Hooper A, Vogfjörd KS, Árnadóttir T, Ófeigsson B, Hreinsdóttir S, Hjartardóttir AR, Einarsson P, Gudmundsson MT, Högnadóttir T, Jónsdóttir K, Hensch M, **Bagnardi M**, Dumont S, Drouin V, Spaans K, Ólafsdóttir R (2017), Evolution of deformation and stress changes during the caldera collapse and dyking at Bárdarbunga, 2014–2015: Implication for triggering of seismicity at nearby Tungnafellsjökull volcano, *Earth Planet. Sci. Lett.*, 462, 212-223.

8. Gudmundsson MT, Jónsdóttir K, Hooper A, Holohan EP, Halldórsson SA, Ófeigsson BG, Cesca S, Vogfjörd KS, Sigmundsson F, Högnadóttir T, Einarsson P, Sigmarsson O, Jarosch AH, Jónasson K, Magnússon E, Hreinsdóttir S, **Bagnardi M**, Parks MM, Hjörleifsdóttir V, Pálsson F, Walter TR, Schöpfer MPJ, Heimann S, Reynolds HI, Dumont S, Bali E, Gudfinnsson GH, Dahm T, Roberts M, Hensch M, Belart JMC, Spaans K, Jakobsson S, Gudmundsson GB, Fridriksdóttir HM, Drouin V, Dürig T, Adalgeirsdóttir G, Riishuus MS, Pedersen GBM, van Boeckel T, Oddsson B, Pfeffer MA, Barsotti S, Bergsson B, Donovan A, Burton MR, and Aiuppa A (2016), Gradual caldera collapse at Bárdarbunga volcano, Iceland, regulated by lateral magma outflow, *Science*, 353, 6269.

7. **Bagnardi M**, González PJ, and Hooper A (2016), High-resolution digital elevation model from tri-stereo Pleiades-1 satellite imagery for lava flow volume estimates at Fogo Volcano, *Geophys. Res. Lett.*, 43

6. González PJ, **Bagnardi M**, Hooper A, Larsen Y, Marinkovic P, Samsonov SV, and Wright TJ (2015), The 2014–2015 eruption at Fogo volcano: geodetic modeling of Sentinel-1 TOPS interferometry, *Gephys. Res. Lett.,* 42

5. Corbi F, Rivalta E, Pinel V, Maccaferri F, **Bagnardi M**, and Acocella V (2015), How caldera collapse shapes the shallow emplacement and transfer of magma in active volcanoes, *Earth and Planet. Sci. Lett.*, 431, 287-293

4. **Bagnardi M**, Poland MP, Carbone D, Baker S, Battaglia M, and Amelung F (2014), Gravity changes and deformation at Kīlauea Volcano, Hawai'i, associated with summit eruptive activity, 2009-12, *J. Geophys. Res.* 119, 7288–7305

3. **Bagnardi M**, Amelung F, and Poland MP (2013), A new model for the growth of basaltic shields based on deformation of Fernandina volcano, Galápagos Islands, *Earth and Planet. Sci. Lett.*, v. 377-378, p. 358-366

2. **Bagnardi M,** and Amelung F (2012), Space-geodetic evidence for multiple magma reservoirs and subvolcanic lateral intrusions at Fernandina Volcano, Galápagos Islands, *J. Geophys. Res.*, 117, B10406

1. Johnson DJ, Eggers AA, **Bagnardi M**, Battaglia M, Poland MP, and Miklius A (2010), Shallow magma accumulation at Kilauea Volcano, Hawai'i, revealed by microgravity surveys, *Geology*, v. 38; no. 12; p. 1139–1142

Other Academic Publications

Bagnardi M (2014), Dynamics of magma supply, storage and migration at basaltic volcanoes: geophysical studies of the Galápagos and Hawaiian volcanoes, Ph.D. Dissertation, University of Miami, Open Access Dissertations, Paper 1179, Miami, FL, USA

Selected Conference Abstracts (2012 – present)

Bagnardi M, Richter N, González PJ, Hooper A, Walter T (2016), Resolving topographic changes at volcanoes using Pleiades-1 tri-stereo imagery and other methods: the example of Fogo Volcano, AGU Fall Meeting, San Francisco, CA, USA (*invited*)

Bagnardi M, González PJ, Hooper A, and Wright T (2016), A tale of two eruptions at Fogo, Cape Verde: insights from ERS, Sentinel-1 TOPS interferometry and Pleiades imagery, ESA Living Planet Symposium, Prague, Czech Republic.

Bagnardi M, González PJ, Hooper A, and Wright T (2015), The 2014-2015 eruption at Fogo volcano: constraining the geometry of the intrusion and erupted volumes with space-geodesy, AGU Fall Meeting, San Francisco, CA, USA

Bagnardi M, González PJ, Hooper A, and Wright T (2015), Investigating the potential for volcano flank instability triggered by recent dike intrusions at Fogo volcano, Cape Verde, EGU General Assembly, Vienna, Austria

Bagnardi M, Hooper A, and Dumont S, (2015), Investigating the mechanisms controlling the eruptive frequency at Hekla volcano, Iceland, EGU General Assembly, Vienna, Austria

Bagnardi M, Amelung F, and Baker S (2015), Two Decades of Magma Supply to the Galápagos Volcanoes Inferred from InSAR and GPS Time- series, ESA Fringe Meeting, Frascati, Italy

Bagnardi M, Amelung F, and Baker S (2014), Magma supply to the western Galápagos volcanoes inferred from InSAR and GPS time series, Wegener Meeting, Leeds, United Kingdom

Bagnardi M, Poland MP, Battaglia M, Carbone D, Baker S, and Amelung F (2013), Mass changes at different levels revealed by micro-gravity and deformation measurements at Kilauea Volcano, Hawai'i, AGU Fall Meeeting, San Francisco, CA, USA (*invited*)

Bagnardi M, Amelung F, and Baker S (2013), Growth and evolution of the western Galapagos volcanoes: insights from space-geodetic observations, IAVCEI Scientific Assembly, Kagoshima, Japan (*invited*)

Bagnardi M, and Amelung F (2012), Variations of the state of stress and dike propagation at Fernandina volcano, Galápagos, EGU General Assembly, Vienna, Austria (*solicited*)

Field experience

Geological mapping, field assistant at several locations (Ecuador, Iceland, Austria, Italy) in different environments (volcanic, metamorphic, igneous, sedimentary)

GNSS, installation and maintenance of continuous and campaign GPS stations, kinematic GPS, Hawaii, Iceland, Cape Verde, Canary Islands

Leveling, field assistant during leveling and dry-tilt campaigns, Hawaii

Micro-gravity, micro-gravity surveys and instrument calibration, Hawaii

Seismology, field assistant during service campaigns of the SIGNET Network, Galapagos Island, Ecuador

UAV survey, use of fixed-wing drone for very-high resolution optical imagery, Cape Verde

Volcano geology/geochemistry, lava-flow mapping, gas sampling, lava sampling, Hawaii

Research Skills

Geodetic data processing and analysis (InSAR, GPS, gravity, etc.).
Photogrammetric processing of optical imagery.
Analytical and numerical modelling of geodetic data.
Use of Monte Carlo methods and Bayesian inverse procedure

Programming:	Matlab, scripting in bash and c shell
Technical software:	GIS, Comsol Multyphysics, RoiPac, Gamma Software, StaMPS, ERDAS Imagine Photogrammetry Suite, GMT, GDAL
IT:	Windows, Mac OS X, Unix/Linux
Languages:	Italian (native), English (fluent), Spanish (notions)